15. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction V. The map must further clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No. E-2, E-2A

16. Attach as an Exhibit *(name the source)* a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No. E-3

(a) the proposed transmitter location, and the radials along which profile graphs have been prepared;

(b) the 3.16 mV/m and 1 mV/m predicted contours; and

(c) the legal boundaries of the principal community to be served.

17. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mV/m contour.

Area 2,520 sq. km. Population 495,732

18. For an application involving an auxiliary facility only, attach as an Exhibit a map *(Sectional Aeronautical Chart or equivalent)* that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No. --

(a) the proposed auxiliary 1 mV/m contour; and

(b) the 1 mV/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license.

19. Terrain and coverage data *(to be calculated in accordance with 47 C.F.R. Section 73.313)*

Source of terrain data: *(check only one box below)*

[X] Linearly interpolated 30-second database [ ] 7.5 minute topographic map

(Source: NGDC)

[ ] Other *(briefly summarize)*

SECTION V-B – FM BROADCAST ENGINEERING DATA (Page 5)

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 8 to 16 km (meters)	Predicted Distances	
		To the 3.16 mV/m contour (kilometers)	To the 1 mV/m contour (kilometers)
* 238	132	18.7	32.1
0	79	14.4	25.5
45	76	14.2	25.2
90	80	14.5	25.8
135	101	16.2	28.6
180	90	15.4	27.3
225	121	17.9	31.0
270	135	18.9	32.4
315	117	17.5	30.5

*Radial through principal community, if not one of the major radials. This radial should NOT be included in the calculation of HAAT.

20. Environmental Statement *(See 47 C.F.R. Section 1.1301 et seq.)*

Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact? ☐ Yes ☒ No

If you answer Yes, submit as an Exhibit an Environmental Assessment required by Section 1.1311. Exhibit No. --

If No, explain briefly why not.

Refer to Exhibit E, proposal does not involve any action specified in Section 1.1307(a)&(b) of the Commission's Rules.

CERTIFICATION

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined the foregoing and found it to be accurate and true to the best of my knowledge and belief.

Name *(Typed or Printed)*	Relationship to Applicant *(e.g., Consulting Engineer)*
Ralph E. Dippell, Jr.	**Consulting Engineer**
Signature: Ralph E Dippell Jr.	Address *(Include ZIP Code)*: **Cohen, Dippell and Everist, P.C. 1300 L Street, N.W., Suite 1100 Washington, D.C. 20005**
Date: December 26, 1991	Telephone No. *(Include Area Code)*: **(202) 898-0111**

COHEN, DIPPELL AND EVERIST, P. C.

EXHIBIT E

ENGINEERING REPORT RE APPLICATION FOR A CONSTRUCTION PERMIT FOR A NEW FM STATION AT WESTERVILLE, OHIO CHANNEL 280A (103.9 MHZ) 6 KW (H&V) 100 METERS DECEMBER 1991

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
)ss
District of Columbia)

Ralph E. Dippell, Jr., being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and Executive Vice President of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and;

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts, he believes them to be true.

Ralph E. Dippell, Jr.
District of Columbia
Professional Engineer
Registration No. 1385

Subscribed and sworn to before me this 26th day of December, 1991.

Notary Public

My Commission Expires

2/28/93

Introduction

This engineering report has been prepared on behalf of Westerville Broadcasting Company, a Limited Partnership, in support of its application for a construction permit for a new FM broadcast station in Westerville, Ohio. The FM operation is proposed on Channel 280A (103.9 mHz) with an effective radiated power (ERP) of 6.0 kW (H&V) and 100 meters antenna height above average terrain.

The closing window date for filing of the application has been set for December 30, 1991.

Exhibits requested by Section V-B of FCC Form 301 are included in this engineering report.

Transmitter Site

The proposed FM antenna will be side-mounted on a new guyed tower. The proposed antenna site is located approximately 600 meters northeast of the intersection of State Route 37 and County Line Road in Licking County, Ohio.

The geographic coordinates of the proposed site are as follows:

North Latitude: 40° 11' 33"

West Longitude: 82° 45' 07"

The following tabulation shows the pertinent data for the proposed installation.

Equipment Data

Transmitter: Type-approved
Antenna: Harris, FML-3E, three-bay circularly polarized

Power Data

Power Input to Antenna:	3.85 kW
Antenna Power Gain (H&V):	1.5588
Effective Radiated Power (H&V):	6.0 kW

Elevation Data

Elevation of site above mean sea level	338 meters
Elevation of top of supporting structure above ground including lighting	96.9 meters (97 m*)
Elevation of top of supporting structure above mean sea level including lighting	434.9 meters (435 m*)
Height of radiation center above ground (H&V)	92.2 meters (92 m*)
Height of radiation center above mean sea level	430.2 meters (430 m*)
Height of radiation center above average terrain	100 meters

*To the nearest meter.

Allocation Situation

The attached Table I shows the distances to the pertinent co-channel and adjacent-channel stations from the proposed FM operation. As indicated, all distances comply with the minimum separation requirements listed under Section 73.207(b) of the Commission's Rules. The distances were computed using the FCC

Topographic Data

The terrain data between 3 to 16 km for the eight radials (each 45 degrees of azimuth starting with true north) and a radial (N 238°E) through the principal community was obtained from the National Geophysical Data Center (NGDC) 30-second data base.

Contour Data

The distances along these radials to the limits of the 3.16 mV/m (70 dBu) and the 1 mV/m (60 dBu) contours were determined from reference to Figure 1, Section 73.333 of the Rules are shown on the attached Table II. The 3.16 mV/m and the 1 mV/m contours are shown on an attached map (Exhibit E-3).

3.16 mV/m (70 dBu) Coverage of Westerville

The Westerville, Ohio, allotment for a maximum Class A operation on Channel 280A requires the transmitter site to be located 13 km northeast of the northeastern city limits of the community. Based on these site restrictions, the proposed operation will provide 3.16 mV/m (70 dBu) service to approximately 97% of Westerville. This represents service to 29,361 people and 26.5 square km of Westerville city compared to the total of 30,269 people and 27.3 square km. In addition, a terrain profile of the radio path from the proposed Westerville site through the principal community is attached

(see Exhibit E-4) which shows a line-of-sight transmission. Therefore, it is believed this proposal is in compliance of the requirements specified in Section 73.315 of the Rules.

Population and Area Data

The population for the proposed 1 mV/m (60 dBu) contour is based on the 1990 U.S. census data for Ohio. The population was counted using a computer program which defines the count region and lists and totals the census blocks within the defined region. The land area of the 1 mV/m contour was measured with a polar planimeter using the original map.

FAA Data

The FAA Form 7460-1 has been filed with the Great Lakes Regional office for review of the overall height of the tower proposed.

Main Studio Location

The main studio will be located within the 3.16 mV/m contour.

Other Radio Stations

There are no FM or TV broadcast stations located within 60 meters of the proposed site.

There is one FM station authorized within 10 km of the proposed FM site. Station WRZR (Channel 276A) 103.1 mHz licensed to Johnstown, Ohio, is located 8.9 kilometers from the

proposed operation. The proposed FM operation in conjunction with WRZR has the possibility of producing third order intermodulation products on FM Channels 272 and 284.

There are no full-service TV stations located within 10 km of the proposed site.

In case of a problem to any authorized broadcast or non-broadcast facilities or radio receivers, the applicant will take the necessary remedial steps to resolve the intermodulation interference.

Blanketing Contour

The proposed blanketing contour (115 dBu) based on an ERP of 6 kW will extend approximately 0.97 km (0.60 mile) from the site. The applicant will comply with all the pertinent requirements of Section 73.318 of the FCC Rules and Regulations.

Environmental Statement

The proposed FM antenna will be side-mounted on a new guyed tower. The antenna site is located in a rural area approximately 600 meters northeast of the State Route 37 and County Line Road intersection.

According to the applicant, the antenna site is not located near any known wilderness area, wildlife preserve, historic place, Indian religious sites, or critical habitats which can affect the endangered species. The proposed facilities are not

located in a flood plain area. The construction of a guyed tower and a building to house the FM transmitter do not involve significant changes in the surface features.

The new guyed tower will be lighted and painted according to FAA specifications. The use of high intensity white lights for the tower is not proposed unless required by the FAA.

Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz", (ANSI C95.1-1982) issued by the American National Standards Institute (ANSI).

For the reasons stated above, this proposal does not involve any action specified in Section 1.1307(a) and (b) of the Commission's Rules: therefore, under Section 1.1306, it is categorically excluded from environmental processing.

Auxiliary Power

The applicant proposes to install auxiliary power at the proposed FM station.

COHEN, DIPPELL AND EVERIST, P. C.

TABLE I
FM ALLOCATION SITUATION
FOR THE PROPOSED CHANNEL 280A OPERATION AT
WESTERVILLE, OHIO
DECEMBER 1991

Channel	Call	City/State	Geographic Coordinates	Separation Actual km	Separation Required km
280A	Proposed	Westerville, OH[1/]	N 40°11'33" W 82°45'07"	--	--
277B	None within 80 kilometers		--	--	69
278A	WSWZ LIC	Lancaster, OH	N 39°43'58" W 82°35'43"	52.8	31
279B	WTTF-FM LIC	Tiffin, OH	N 41°08'20" W 83°14'45"	113.1	113
280A	WYMJ-FM LIC	Beavercreek, OH	N 39°44'12" W 84°09'25"	130.3	115
281C	WPAY-FM LIC	Portsmouth, OH	N 38°43'20" W 83°00'05"	164.6[2/]	165
281B	WQAL CP	Cleveland, OH	N 41°22'45" W 81°43'12"	158.0	113
282A	ADD	Richwood, OH	N 40°25'36" W 83°18'00"	53.4	31
283B	WQKT	Wooster, OH	N 40°47'31" W 81°54'17"	97.9	69
226B	None within 50 kilometers		--	--	15
227B	WKKJ ADD	Reynoldsburg, OH	N 39°53'32" W 83°02'44"	--	15

1/ Since the proposed operation is within 320 kilometers of the Canadian Border, the Channel 280 allotment was proposed to Canada as a Plan on April 16, 1990 and accepted by Canada on March 5, 1991

COHEN, DIPPELL AND EVERIST, P. C.

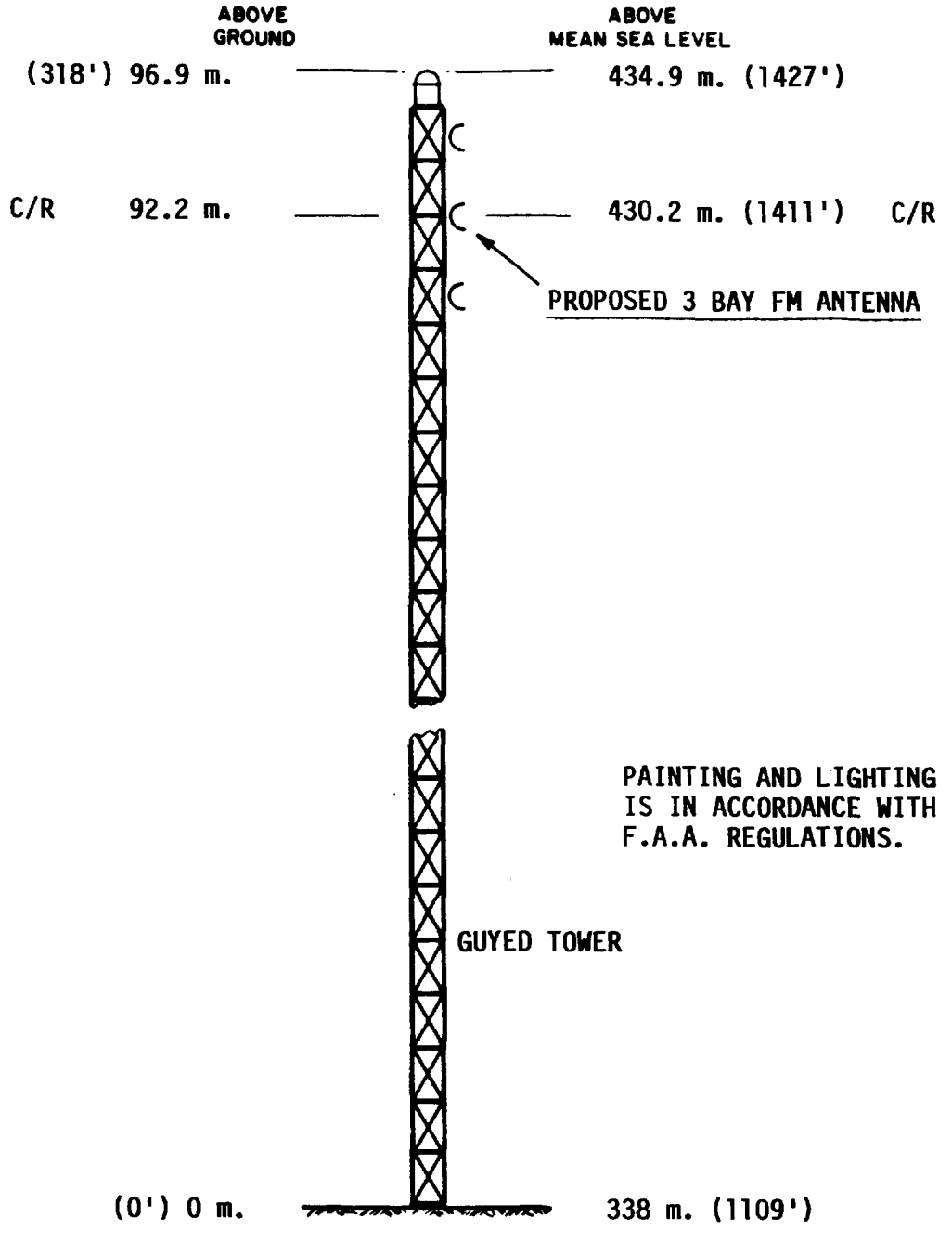
TABLE II
COMPUTED COVERAGE DATA
FOR THE PROPOSED FM OPERATION AT
WESTERVILLE, OHIO
DECEMBER 1991

Radial Bearing N °E,T	Average* Elevation 3 to 16 km meters	Height of Radiation Center Above Average Elevation of Radial 3 to 16 km meters	Predicted Distance to Contour 3.16 mV/m km	Predicted Distance to Contour 1 mV/m km
238**	298	132	18.7	32.1
0	352	79	14.4	25.5
45	354	76	14.2	25.2
90	350	80	14.5	25.8
135	329	101	16.2	28.6
180	340	90	15.4	27.3
225	309	121	17.9	31.0
270	295	135	18.9	32.4
315	313	117	17.5	30.5

*Based on NGDC 30-second data base
and rounded to nearest meter.
**Radial through principal community
(not included in average).

Channel 280A (103.9 mHz)
Effective Radiated Power 6 kW (7.78 dBk)
Average Elevation 3 to 16 km 330* meters
Center of Radiation 430 meters
Antenna Height Above Average Terrain 100 meters

North Latitude: 40° 11' 33"
West Longitude: 82° 45' 07"



(NOT TO SCALE)

EXHIBIT E - 1
VERTICAL SKETCH
FOR THE PROPOSED FM OPERATION AT
WESTERVILLE, OHIO
DECEMBER 1991

COHEN, DIPPELL and EVERIST, P.C. Consulting Engineers Washington, D.C.

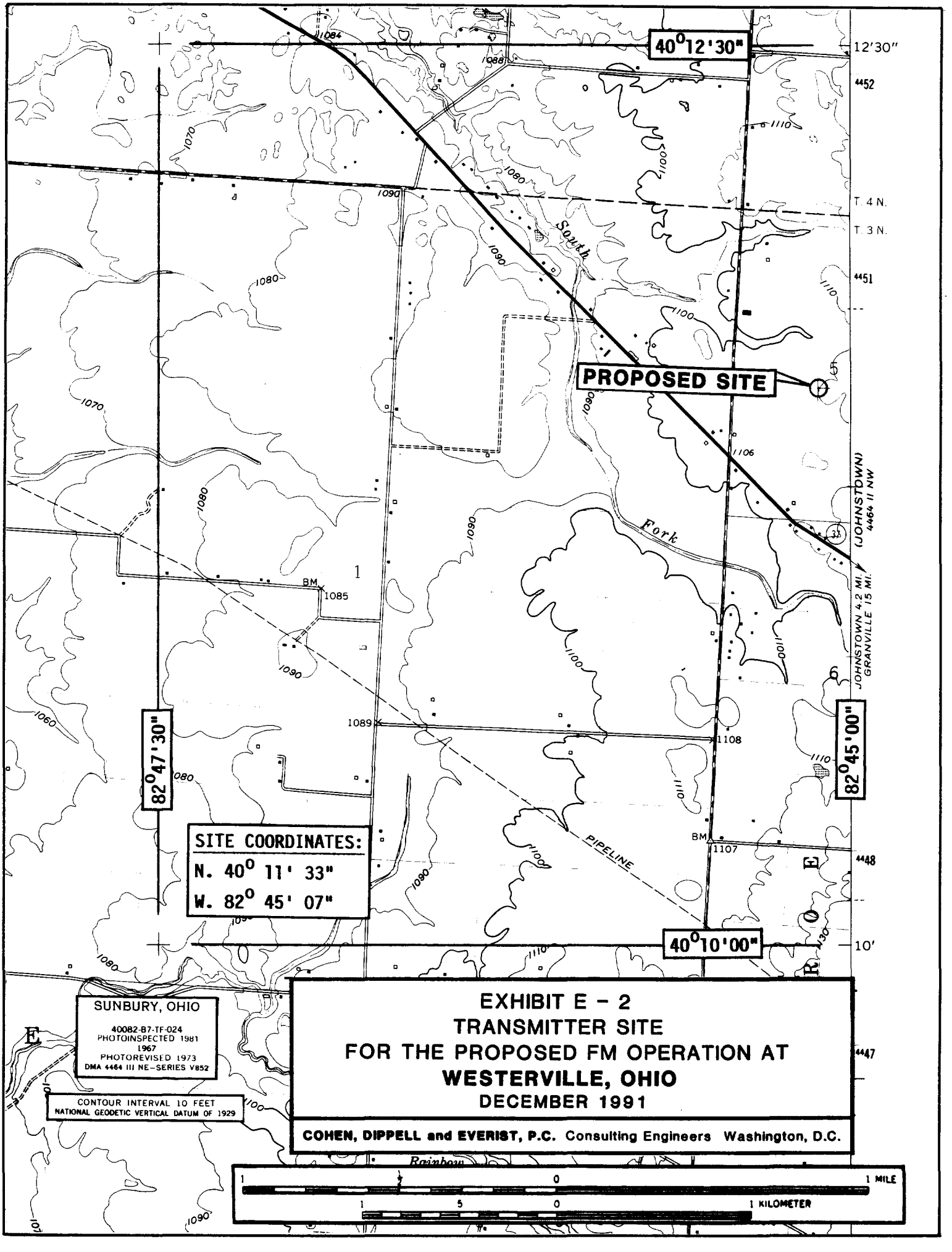
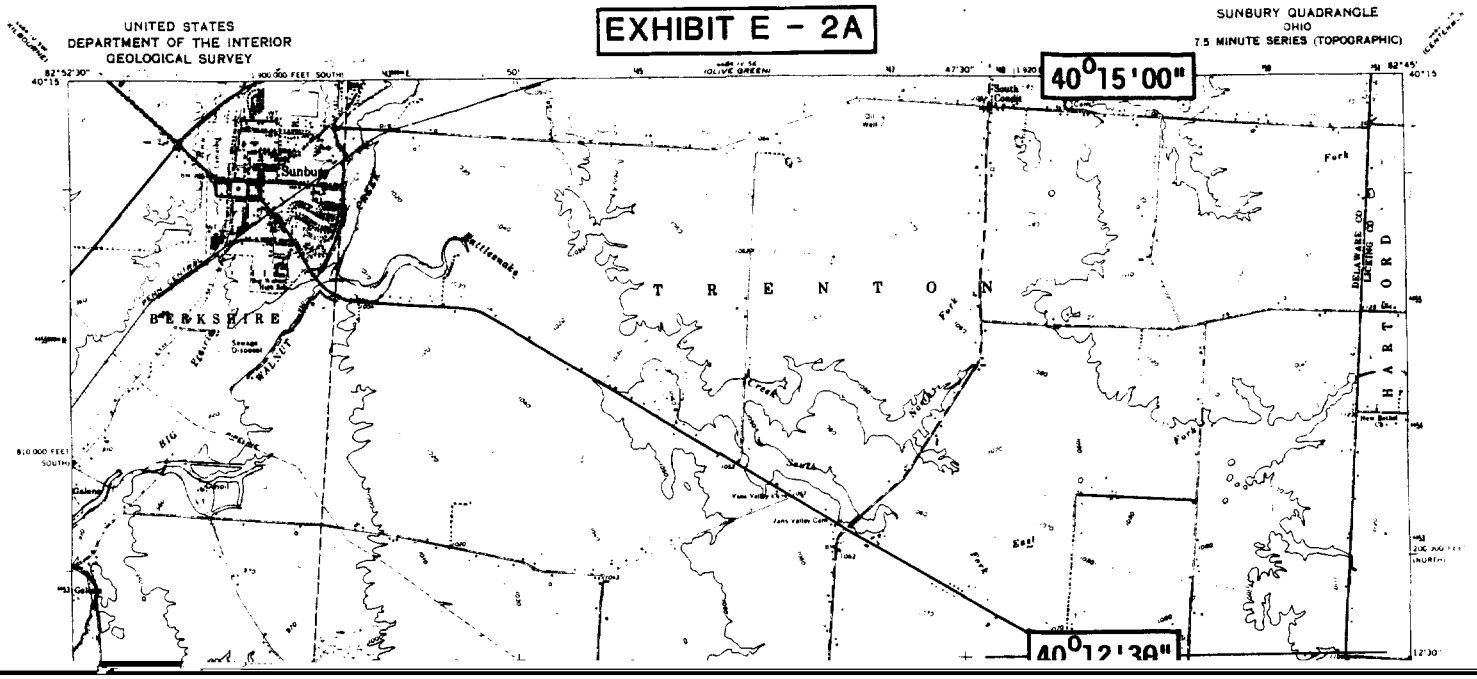
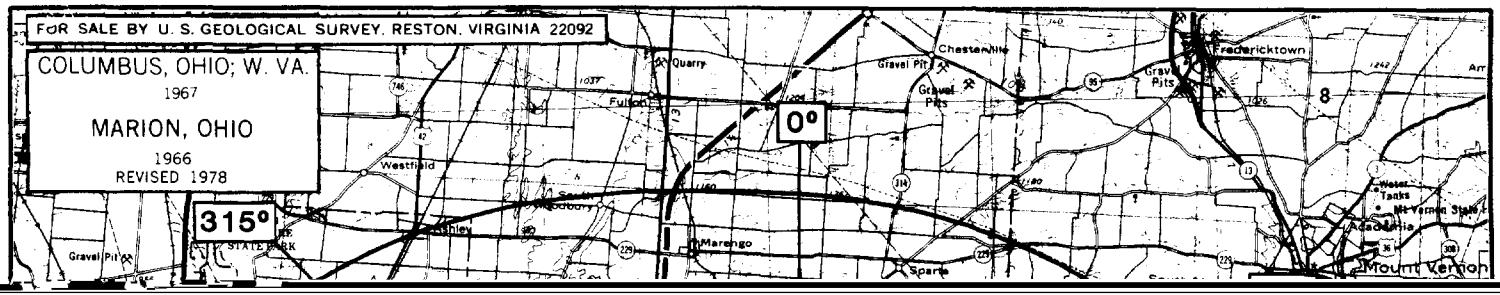


EXHIBIT E - 2
TRANSMITTER SITE
FOR THE PROPOSED FM OPERATION AT
WESTERVILLE, OHIO
DECEMBER 1991

COHEN, DIPPELL and EVERIST, P.C. Consulting Engineers Washington, D.C.

EXHIBIT E - 2A

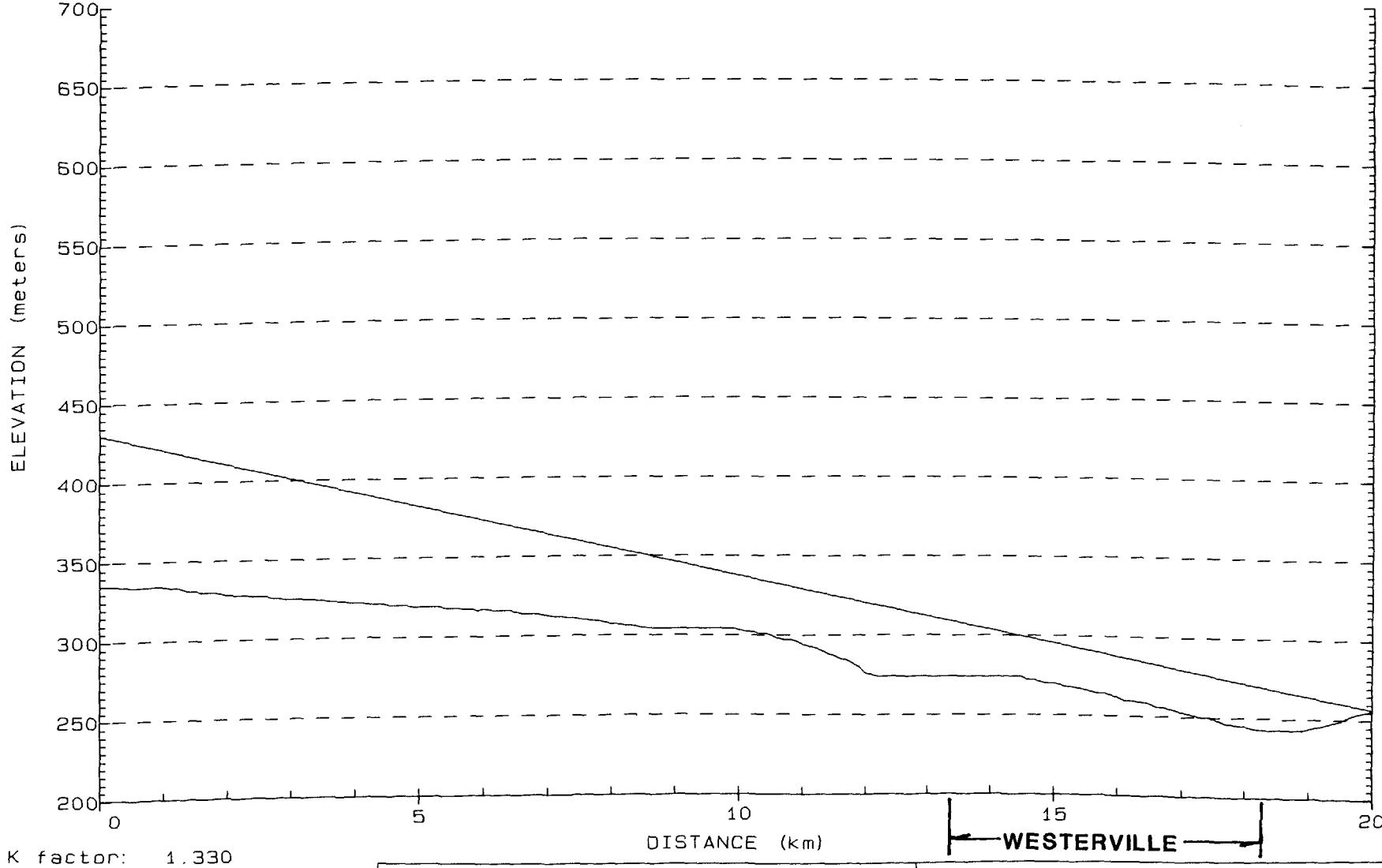

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SUNBURY QUADRANGLE
OHIO
7.5 MINUTE SERIES (TOPOGRAPHIC)
40°15'00"
40°12'30"
Sunbury
BERKSHIRE
TRENTON
HARTFORD
Rattlesnake
Galena


FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
COLUMBUS, OHIO; W. VA.
1967
MARION, OHIO
1966
REVISED 1978
315°
0°
Quarry
Gravel Pit
Chesterhill
Fredericktown
Gravel Pits
Fulton
Westfield
Marengo
Sparta
Mount Vernon
Water Tanks
Gravel Pit
STATE PARK

Site: WESTERVILLE SITE
N 40 11 33 W 82 45 7
Ant. Elev. (AMSL): 430.0 m
Path azimuth: 238.00 degs.

Frequency: 103.9 MHz
Path Length: 20.0 km

Site: 20 KILOMETERS
N 40 5 49 W 82 57 5
Ant. Elev. (AMSL): 256.5 m
Path azimuth: 57.86 degs.



K factor: 1.330

COHEN, DIPPELL AND EVERIST
Consulting Engineers
WASHINGTON, D.C. 20005

RADIO PATH

DECEMBER 1991

EXHIBIT E-4